

Title (en)

Lithographic marker structure compliant with microelectronic device processing

Title (de)

Zur Herstellung eines mikroelektronischen Elements geeignete Struktur einer lithographischen Marke

Title (fr)

Structure de marque lithographique adaptée à la fabrication de dispositifs micro-électroniques

Publication

EP 1477860 A1 20041117 (EN)

Application

EP 03076422 A 20030512

Priority

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Abstract (en)

A marker structure on a substrate for optical alignment of the substrate includes a plurality of first structural elements and a plurality of second structural elements. The first and the second structural elements are arranged in a repetitive ordering of one first structural element located adjacent to one second structural element, with a periodicity in an ordering direction of the repetitive ordering. The first structural element has a first width in the ordering direction, and the second structural element has a second width in the ordering direction. Both structural elements have a length direction extending perpendicular to the ordering direction. <??>The optical alignment is capable of: providing a light beam directed on the marker, receiving a diffracted light pattern, diffracted by the marker, on a sensor for measurement of the pattern, determining alignment information from the measurement which relates to a position of the substrate relative to the sensor. <??>The marker structure is manufactured by a lithographic process using a mask with a geometrical pattern for generating the marker structure. <??>The first structural element has a first reflecting surface on a first level and the second element has a second opaque reflecting surface on a second level, below the first level of the first reflecting surface. <??>The difference of the first and second level determines a phase depth condition for the diffracted light pattern. <??>In the second opaque reflecting surface a recessed area is present to modify the phase condition. <IMAGE>

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G03F 9/00

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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